

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, PO Box 95 • EUREKA, CALIFORNIA 95502

OFFICE 707-443-5018 ESSEX 707-822-2918

FAX 707-443-5731 707-822-8245

EMAIL OFFICE@HBMWD.COM

BOARD OF DIRECTORS

KAITLIN SOPOCI-BELKNAP, PRESIDENT

ALDARON LAIRD, VICE-PRESIDENT

BARBARA HECATHORN, SECRETARY-TREASURER

BRUCE RUPP, DIRECTOR

SHERI WOO, DIRECTOR

April 14, 2011

GENERAL MANAGER

CAROL RISCHE

Mark Wheatley, Mark Andre, Karen Diemer; City of Arcata

Karen Barnes, John Berchtold; City of Blue Lake

Elected Water Task Force Official, David Tyson, Mike Knight, Bruce Young; City of Eureka

Jason Garlick, Rick Hanger, Neal Carnam; Fieldbrook-Glendale CSD

Verne Frost, Steve Davidson; Humboldt CSD

Elected Water Task Force Official, Chris Drop; Manila CSD

Dennis Mayo, Norman Shopay; McKinleyville CSD

Re: Water Resource Planning Implementation Plan

Dear Municipal Customers (via Water Task Force Members):

As you know, the Humboldt Bay Municipal Water District has been involved with a comprehensive planning process to address important issues facing the District and our community. The planning process is addressing two key issues: 1) the District's aging infrastructure since the regional water system, which has reliability served our communities' drinking water needs, is 50 years old; and 2) implications stemming from loss of the District's industrial customer base (since both pulp mills are permanently shuttered).

The purpose of this letter is to provide a status report regarding the District's planning effort, and to invite input on the recently completed draft "Implementation Plan to Evaluate and Advance Recommended Water-Use Options." A copy of the draft plan is attached for your information and review.

We would appreciate receiving input on the proposed water-use options the District plans to consider, as well as proposed implementation activities within the next two-to-three months. To facilitate this, we suggest the Water Task Force meet. We will work with staff to schedule that. HBMWD Board members and staff are also available to attend any Board or Council meeting to discuss and receive input.

Introduction

Loss of the industrial customer base has triggered two issues for the District, its ratepayers, and our community generally:

1. Significant revenue loss has resulted in a cost shift to HBMWD's seven Municipal Customers given that the pulp mills paid a significant share of the "base" costs to operate, maintain and improve the regional system. This in turn has triggered water rate increases in all communities. Ratepayer implications will be exacerbated if additional revenues are not secured to help fund the costly infrastructure projects which are on the horizon.
2. Underutilization of water the District has been authorized to "use" by the State (via its water rights permits). HBMWD is currently using substantially less than the amount permitted. The State of California has exclusive jurisdiction over the appropriation of surface water resources. A key principle underlying California water law is "use it or lose it" - five years of non-use can constitute abandonment of the right. The District's water rights permits expire in 2029. If the District does not achieve additional "beneficial use" prior to that time, the District will lose rights to much of the water it is permitted to use. The amount lost would then be available for any other party who applies to the State for its use, including other municipalities or private parties from outside Humboldt County. The State will have exclusive jurisdiction over that application and future appropriations.

Background regarding the Community-Based Planning Process

Last year, HBMWD's Board created an Advisory Committee comprised of diverse stakeholders (Municipal Customers, environmental, fisheries/watershed, economic development, business/Chamber, real estate, tribal, and labor representatives). The Advisory Committee helped the District design a process to educate stakeholder groups and the community regarding this issue and its implication, and to solicit input regarding options to address this issue.

The District and Advisory Committee completed a thoughtful, community-based planning process over a 15-month period. Awareness of our issue was raised and valuable input received from stakeholder groups and the public. Details regarding the planning process are summarized in Attachment 1. This community-based planning process was praised and supported by numerous organizations locally and also by Common Sense California at the State level. Common Sense California, now known as The Davenport Institute, is a non-profit organization that promotes citizens' participation in governance.

Last fall the Advisory Committee presented their findings and recommendations to the District in a comprehensive report titled "Advisory Committee Recommendations for Water Use Options Supported by a Community-based Planning Process." The report is available on-line (www.hbmwd.com) or may be obtained by calling the District at (707) 443-5018.

Current Status of Planning Process

Last fall, the Board of Directors accepted the Advisory Committee's report and recommendations. Since then, the Board established three goals to guide the next phase of the planning process, the focus of which is to consider, evaluate, and then pursue, new water-use options. The goals are:

- Protection of HBMWD's Water Rights – increase water use such that HBMWD maintains control of this water resource for the benefit of our community;

- Fiscal Sustainability – generate revenues to contribute to the current operation and maintenance of the regional water system, as well as upcoming costly capital replacement projects (given that the system is 50 years old);
- Environmental Sustainability – preserve the Mad River environment, and if possible, enhance it.

Given the Advisory Committee's recommendations, the Board segmented the recommended water-use options into two tiers. The District will pursue the top-tier options before pursuing second-tier options. The top-tier options are ones the District will actively consider, evaluate, and as appropriate, pursue. The top-tier options are:

- a) *Local* commercial, industrial or agricultural water sales, or any other viable water-use option within the District, such as aquaculture recommended by the Advisory Committee.
- b) Transfer of water to another public agency outside of the District for an authorized beneficial use (e.g. municipal, industrial, environmental). Such a transfer would only occur under a strictly defined contract which protects the District and local interests. California water law protects the District's underlying water right.
- c) Dedicating some portion of the available water for in-stream flows in the Mad River. Such water would otherwise be in storage at Ruth reservoir for much of the year (i.e. summer and fall). This option is available pursuant to section 1707 of the California Water Code, which is intended to promote water transfers for the benefit of the environment. For such a transfer to occur there must be defined environmental benefit. This option will require studies to substantiate environmental benefit and address potential adverse effects, especially in the estuary. For consideration of this option, the District will pursue technical support and funding from Resource Agencies or other interested parties, to shield the District's municipal customers (and therefore ratepayers) from funding costly studies.

Draft Implementation Plan and Request for Comments

As introduced above, the District completed a draft "Implementation Plan to Evaluate and Advance Recommended Water Use Options." A copy of this plan is attached for your information and review. This document is based on, and then builds upon, the significant public and stakeholder input the District received in 2009 and 2010. We invite questions, discussion and input regarding the top-tier water use options and proposed implementation activities. ***We would appreciate receiving input on the draft plan by June 30, 2011.***

Concurrently, we are sharing this draft plan broadly within organizations and stakeholders in Humboldt and Trinity Counties and inviting similar input. We will of course also be inviting and accepting additional public input too. Two public input sessions/hearings will be held on July 14th to invite and accept additional public input.

Sincerely,



Kaitlin Sopoci-Belknap
President

**Humboldt Bay Municipal Water District
Water Resource Planning**

Summary of Community-Based Planning Process

- December 2008: First presentation regarding the District's situation and its implications (increased costs & rates and control of water rights), along with the proposed planning process to address them, to District's Municipal Customer group (via Water Task Force).
- During next three months: Presentations to twelve stakeholder groups at which District invited nominations for a broad-based Advisory Committee.
- April 2009: The Board considered and selected members for the Advisory Committee (AC) comprised of:
 - three Municipal Customer representatives to represent our municipal customer and ratepayer interests collectively;
 - two representatives from the environmental community;
 - two representatives from the economic development community;
 - one representative from the fishery/watershed community;
 - one representative from the chamber/business community;
 - one representative from the realtor community;
 - one representative from the Blue Lake Rancheria (a representative was also invited from the Wiyot Tribe but they did not submit a nomination)
 - one representative from labor; and finally
 - two HBMWD Board members.
- In June 2009, the Advisory Committee met for the first time and began to chart the course for a community-based education and planning process.
- Between June 2009 and August 2010.....
 - A Citizens' Study Group (CSG) – comprised of additional stakeholders and randomly-selected citizens - was formed and provided input at three distinct times in the process;
 - Eight public meetings held in three different communities;
 - An all day Water Workshop with a number of "experts" who provided important background/technical information, after which the CSG and public generated water use options. The Workshop was recorded and aired numerous times on Access Humboldt, and also made available on DVD for any interested member of the public;
 - 25 -30 additional presentations to stakeholder and community groups;

- 22 newspaper articles plus additional guest opinions in traditional print media (Times Standard, Northcoast Journal, Arcata Eye, McKinleyville Press, Senior News and EcoNews)
 - At least 10 articles in an organization's newsletter (RREDC, Chamber, McKinleyville CSD, Common Sense CA)
 - Radio ads and PSA on all major radio groups (Bi-Coastal Media, Lost Coast Communication and Eureka Broadcasting) at three times during process;
 - 13 radio shows/programs dedicated to WRP discussion;
 - A robust website with all presentations, background material, public input, and Advisory Committee meeting notes posted in a timely fashion, plus opportunity for public input re: water use options;
 - About 400 public showed up to meetings; however, there is much anecdotal evidence that many more people were educated and to one extent or another following this process.
 - On August 5, 2010, the Advisory Committee held its *final* meeting at which they unanimously agreed on their final water-use option recommendations.
- **August 2010:** The Advisory Committee presented their recommendations to the HBMWD Board of Directors. They identified 13 possible water-use options based on public and stakeholder input, and they recommended that the District consider and evaluate 11 of the options. The Advisory Committee presented their findings and recommendations to the District in a comprehensive report titled "Advisory Committee Recommendations for Water Use Options Supported by a Community-based Planning Process." The report is available on-line (www.hbmwd.com) or may be obtained by calling the District at (707)443-5018.
 - **Fall, 2010:** The Board of Directors accepted the Advisory Committee's report and recommendation and began to chart the course for the next steps in the planning process to consider, evaluate, and eventually pursue, new water-use options.

Humboldt Bay Municipal Water District

Water Resource Planning

Implementation Plan to Evaluate and Advance Recommended Water Use Options

April 14, 2011

Draft

This document is based on, and then builds upon, the significant public and stakeholder input the District received in 2009 and 2010. The District requests comments and input on the draft Plan by June 30, 2011

Two Public Input Sessions/ Hearings will be held on July 14th (one in the day and one in the evening) to solicit and accept additional public input

Implementation Plan to Evaluate and Advance Recommended Water Use Options

TABLE OF CONTENTS

1.	Introduction to the HBMWD.....	3
1.1	Customers.....	3
1.2	Operations and Facilities.....	3
1.3	Water Rights.....	4
2.	Key Challenges Facing the District.....	4
3.	Implications of this Loss.....	5
3.1	Financial.....	5
3.2	District Water Rights and Ability to Maintain Local Control.....	6
4.	Planning Process to Address the Loss of Customer Base.....	7
5.	Water Use Goals.....	8
6.	Water-Use Options the District will Evaluate, and if Feasible, Pursue.....	8
7.	Available Water Supply.....	9
8.	Purpose of this Plan and How it Will be Used.....	10
9.	Implementation Activities to Advance Top-tier Options.....	11
9.1	Initial Activities Common to All Options.....	11
9.1.1	Communication.....	11
9.1.2	Identify Resources to Support Evaluation.....	12
9.1.3	Public Involvement.....	12
9.2	Subsequent Activities for each Option.....	13
	Implementation Matrix is divided into three time periods:	
	Short-Term.....	14
	Medium-Term.....	16
	Long-Term.....	17

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

Water Resource Planning

Implementation Plan to Evaluate and Advance Recommended Water Use Options

1) Introduction to the HBMWD

The Humboldt Bay Municipal Water District was formed in 1956 pursuant to the California Municipal Water District Act. The District was created to develop a regional water system that provides a reliable supply of drinking and industrial water to customers in the greater Humboldt Bay area of Humboldt County.

The District's Mission is to:

1. reliably deliver high quality drinking water to the communities and customers the District serves in the greater Humboldt Bay Area at a reasonable cost;
2. reliably deliver untreated water to the District's wholesale industrial customer(s) at a reasonable cost; and
3. protect the long-term water supply and water quality interests of the District in the Mad River watershed.

1.1 Customers

The District operates almost exclusively at the wholesale level. The District supplies drinking water to seven public agencies, who in turn, serve the residents, businesses and industries in the greater Humboldt Bay region. The District's wholesale municipal customers are the cities of Arcata, Eureka, Blue Lake, and four Community Service Districts - Fieldbrook-Glendale, Humboldt, Manila, and McKinleyville.

For almost 50 years, the District also supplied untreated water to two large industrial customers (pulp mills) on the Samoa Peninsula.

1.2 Operations and Facilities

Current operations of the District include: 1) Ruth Lake in southern Trinity County, which provides the reliable year-round water supply, 2) a hydro-electric power house at Matthews Dam on Ruth Lake, 3) diversion, pumping and control facilities on the Mad River at Essex (near Arcata), 4) storage and treatment facilities at various locations, and 5) pipeline systems that deliver either treated drinking water or untreated surface water to customers throughout the Humboldt Bay region.

The District operates and maintains two *separate and distinct* water delivery systems:

1. an Industrial Water System, capable of supplying 60 million gallons per day (MGD) of untreated water to industrial customer(s) on the Samoa Peninsula, and
2. a Domestic Water System capable of supplying about 20 MGD of treated drinking water for the municipal customers and community.

The distinction between the Domestic and Industrial systems is important in understanding the District's advantages and constraints in regards to planning future water uses:

- Given their relative capacities - 60 MGD industrial and 20 MGD municipal - 75% of the District's supply and delivery capacity is on the Industrial system.
- The systems are dedicated for their respective uses - ***the industrial system (in its current state) cannot supply drinking water.*** So although the District has ample water supply available under its permit from the State, the District can only provide about 20 MGD of drinking water unless significant infrastructure is added to the domestic water system.

1.3 Water Rights

The State of California – via the State Water Resources Control Board (SWRCB) - manages surface water resources within the state. The SWRCB accepts applications and issues permits to agencies or other parties who wish to “use” water for a specific public purpose.

The District has been granted water rights permits for municipal and industrial water use. The permits allow the District to store 48,030 acre-feet of water at Ruth Lake, and then divert up to 116 cubic feet per second (cfs) at its diversion facilities on the Mad River located 75 miles downstream near Arcata. (Note: 116 cfs = 75 million gallons per day (MGD), the latter being the units in which HBMWD measures water delivery to its wholesale customers)

The physical facilities of the regional water system, plus these water rights, are what allow the District to provide a highly reliable, year-round water supply of 75 MGD.

Water law is also an important factor in understanding the District's advantages and constraints in regards to planning future water uses.

2) Key Challenges Facing the District

The key challenge facing the District is the loss of its entire industrial customer base. This has resulted in:

1. a significant loss in revenues which has shifted substantial costs to the District's municipal customers;
2. non-use of the Industrial Water System which is now sitting idled; and
3. under-utilization of the District's water rights which will be lost if not used once again.

From the early 1960's until 1999, the District had long-term contracts in place with one or two large industrial users (pulp mills) on the Samoa Peninsula. For much of this period, the entire 60 MGD capacity of the District's Industrial Water System was under contract to these mills. During this period, the two mills regularly used 40 to 50 MGD, which was *4 to 5 times greater* than the *total* municipal use for the entire Humboldt Bay region (Figure 1).

In the mid-1990's, the Simpson Pulp Mill ceased operation resulting in a significant reduction in District water deliveries (Figure 1). Shortly thereafter, the remaining pulp mill reduced its

contract commitment to about half of what it had been historically. In 2009, that mill ceased operation and remains closed today with no prospect of resuming operation.

Over the last 30 years, total municipal use has been quite constant averaging about 10 MGD. Industrial water use is now zero.

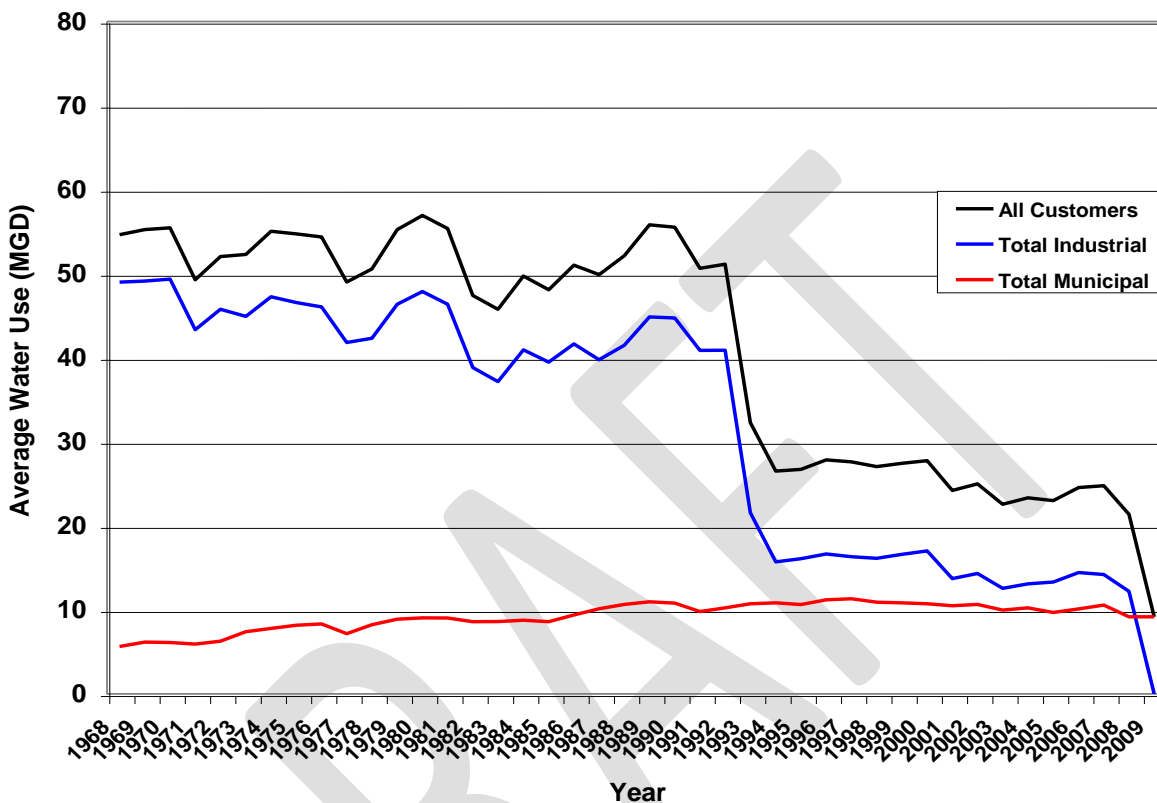


Figure 1. Annual average municipal and industrial water used (MGD)

3) Implications of this Loss

3.1 Financial

Loss of the industrial customers has created significant issues for the District and its municipal customers. Loss of the mills – which at one time paid 75% of the District’s costs of operating, maintaining and improving the regional water system -- has triggered significant cost increases to the District’s municipal customers. This in turn has triggered significant increases in retail water rates in all communities.

Additional revenues are desired to offset the current ratepayer burden of shouldering the entire cost of the regional water system. Furthermore, additional revenues are needed to fund costly infrastructure replacements given that most operational elements of the regional water system are 50 years old. Infrastructure replacements must be done to maintain the reliability and integrity of the regional water system. Additional details regarding wholesale cost increases and impacts on retail water rates are presented in Appendix 1.

3.2 District Water Rights and Ability to Maintain Local Control

In addition to economic and ratepayer ramifications, loss of the industrial customer base has created a unique challenge with respect to the District's water rights.

A key principle in California water law regarding utilization of a water right is how much control a permittee (like the District) will have compared to the SWRCB or others. As a general rule, if a permittee is complying with the terms of its permit (including any changes), then the permittee has full control over the water right. However, if a permittee fails to put all of the water under permit to use, then the SWRCB will, at the end of the permit period, reduce the quantity of water under the water right permit to the amount the permittee has *actually used*. It is in essence a "use it or lose it" mechanism. The failure to use that water creates the opportunity for new parties to try to obtain rights to the unused water.

Since the two pulp mills ceased operation, the District has faced an appreciable reduction in its permitted water use. Figure 2 presents the permitted diversion authorized in the District's water rights permits versus the District's actual diversions. There is a significant gap between the permitted use and that which the District is currently using. The District must put this available water to beneficial use during the current permit term (between now and 2029) or risk losing the unused amount.

Appendix 2 presents additional details regarding California water rights law and the District's water rights permits.

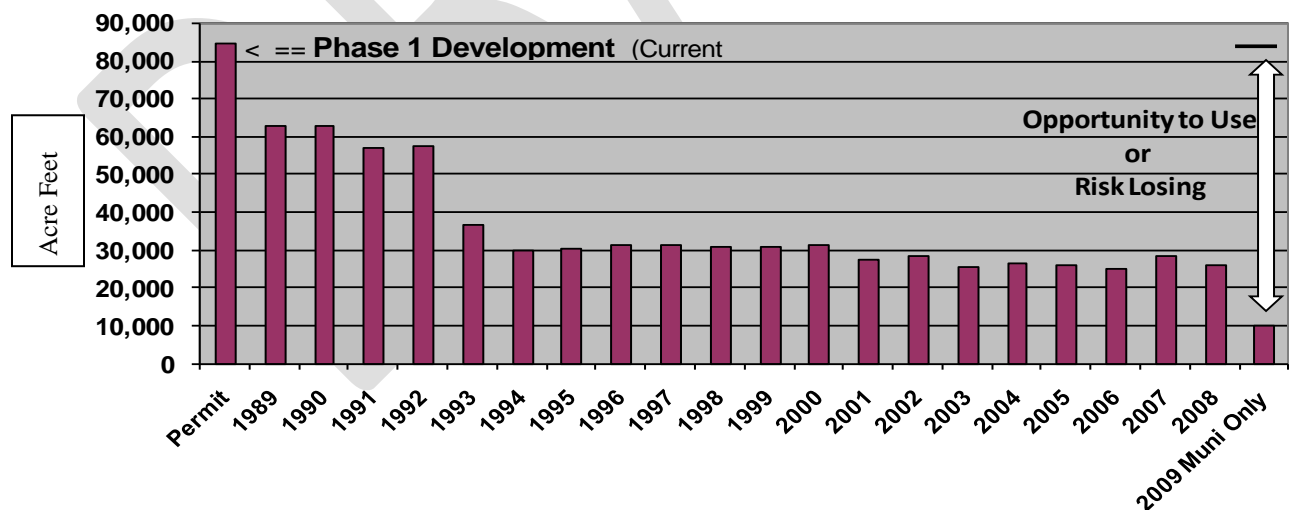


Figure 2. Annual permitted diversion versus actual diversion in acre-feet/year (AFY)

4) Planning Process to Address the Loss of Customer Base

In 2005, the Board of Directors embarked on a planning process to address long-term issues of strategic importance to the District. The goal was to ensure the long-term integrity and viability of the regional water supply and system such that the District continues to meet its important service mission to the community. The Board agreed on two initiatives that warrant priority attention in the coming years - Infrastructure Planning and Water Resource Planning.

To address the significant revenue loss and to avoid the eventual loss of its water rights, the District must find additional water uses - up to 50 MGD. The District turned to the community to identify possible water use options and to provide input on important trade-offs that are inevitable.

The District's outreach to the community was wide-ranging and in-depth. To lead the process, the Board created an Advisory Committee comprised of three representatives from its Municipal Customer group, nine citizens representing multiple stakeholder perspectives, and two members of the Board. The Advisory Committee began its work in June 2009. During a 14-month process, they gathered input from the public at 11 meetings, conducted an educational Water Workshop, and formed a Citizen's Study Group comprised of stakeholders and citizens randomly selected and invited from voter rolls. The District used television, radio, print media, and the Internet to further communicate with the community. Over 30 articles appeared in eight newspapers or newsletters, and the District gave 22 presentations to various stakeholder groups throughout the County.

The Advisory Committee accomplished much work. They:

1. Created a "Framework for Evaluating Water Resource Planning Options"
2. Provided public outreach and education
3. Gathered public and stakeholder input on water-use options
4. Created descriptions and conducted initial research on possible water-use options
5. Analyzed the options
6. Provided recommendations to the District's Board of Directors

There are three broad categories in which the District can achieve increased water use:

- (i) Use additional water *within* the District via projects that increase the consumptive use of water within the current District boundaries.
- (ii) Transfer water for use *outside* of the District's existing service territory via projects that would generate revenues by selling water (not the underlying water right) to a Municipality or other party who would then put the water to "beneficial use." Such a transfer would only occur under a strictly defined contract which protects the District and local interests.
- (iii) Transfer water for environmental benefit via projects that provides water for environmental restoration or enhancement.

Under these broad categories, the Advisory Committee generated 13 possible water-use options based on public and stakeholder input. Following their evaluation, they recommended 11 options to the District. The Advisory Committee presented their findings and recommendations to the District in a comprehensive report in August 2010.

Appendix 3 contains the title page, executive summary, and table of contents of their report, as well as the Framework for Evaluating Water Resource Planning Options. The complete report is available on-line (www.hbmwd.com) or may be obtained by calling (707)443-5018.

This thoughtful community-based planning process helped the District educate the public and raise awareness of the District's unique situation and its implications.

5) Water Use Goals

The Board of Directors accepted the Advisory Committee's report and water use recommendations. The next steps are to evaluate the most promising options and take appropriate steps towards implementation such that the District achieves additional water use. To guide this next phase of work, the Board established three goals:

- Protection of HBMWD's Water Rights – increase water use such that HBMWD maintains control of this water resource for the benefit of our community;
- Fiscal Sustainability – generate revenues to contribute to the current operation and maintenance of the regional water system, as well as upcoming costly capital replacement projects (given that the system is 50 years old);
- Environmental Sustainability – preserve the Mad River environment, and if possible, enhance it.

6) Water-Use Options the District will Consider and Evaluate

The Board segmented the recommended water-use options into two tiers. The District will pursue the top tier options before pursuing the second-tier options.

Top Tier: Options the District will actively consider, evaluate, and as appropriate, pursue:

- a) *Local* commercial, industrial or agricultural water sales. This option would include other viable water-use options within the District, such as aquaculture.
- b) Transfer of water to another public agency outside of the District for an authorized beneficial use (e.g. municipal, industrial, environmental). Such a transfer would only occur under a strictly defined contract which protects the District and local interests. CA water law also would protect the District's underlying water right.
- c) Dedicating some portion of the available water for in-stream flows in the Mad River. Such water would otherwise be in storage at Ruth reservoir for much of the year (i.e. summer and fall). This option is available pursuant to section 1707 of the California Water Code, which is intended to promote water transfers for the benefit of the environment. For such a transfer to occur there must be defined environmental benefit. This option will require studies to substantiate environmental benefit and address potential adverse effects, especially in the estuary. For this option to be considered, the District will pursue technical support and funding from Resource

Agencies or other interested parties, to limit the District's municipal customers (therefore ratepayers) from funding costly studies.

Second Tier: Options the District will consider, and as appropriate support, if they are recommended or advanced by an interested party. This includes several water-use options recommended by the Advisory Committee, as well as any new option generated prospectively. Examples of such uses include: expanding the current District boundary; creating a lake in Blue Lake; using river water in lieu of well water at the Mad River hatchery; transferring water to a private entity for use outside of the District; and installation of micro-hydro.

Options Not Under Consideration: The Board decided two water-use options generated by the Advisory Committee will not be pursued – building a large diameter pipeline to Mendocino or Sonoma counties in the North Coast Railroad right-of-way, and transferring water from the Mad River to an adjacent watershed (Van Duzen or Trinity) just downstream of Ruth reservoir. They deemed these options too costly, too risky, and too permanent from the perspective of maintaining flexibility and control for local needs. Additionally, the pipeline option would be burdened with significant operations and maintenance costs, and would likely be fraught with the same stability issues in the Eel River canyon which plagued the railroad. The watershed transfer option would create an upstream out-of-basin transfer on the Mad River which would likely cause adverse impacts to the Mad River watershed.

7) Available Water Supply

The District has 40 to 50 million gallons per day (MGD) of untreated water available year-round. This is equivalent to 45,000- 56,000 acre-feet/year.

To determine the volume of water available for a specific water-use proposal under options “b”(transfer to another public agency) or “c” (dedicating a portion for in-stream flows), the District will be very protective of local interests – both long-term municipal water supply needs, as well as any new commercial, industrial, agricultural or aquaculture needs.

The volume available for a longer-term use will be established in the context of the proposed use as well as proposed term. The District would generally be willing to offer a larger volume for a shorter term, but would limit the volume available for longer-terms so as to protect local interests. There may be opportunities to consider unique packages – for example combinations of short-term and long-term contracts (especially for option “b” – transfers to another public agency). Such packages would protect the water supplies needed to meet local demands (option “a”) in a manner that is consistent with long-term, sustainable use of water in Humboldt County.

For option “b” (transfers to another public agency) and option “c” (dedicating a portion for in-stream flows), the District suggests consideration and evaluation of the feasibility, costs, benefits, and effects in discrete increments – say 5, 10 or 20 MGD. For option “b” (transfers to another public agency), the District will also pay particular attention to urban water conservation activities by that agency and, if appropriate, that agency's plans for environmental restoration measures.

8) Purpose of this Plan and How it Will be Used

The purpose of this Plan is to guide evaluation of the recommended water-use options and to define activities to advance, and hopefully pursue, a suite of options.

It is important that the District have such a plan to share with the State Water Resources Control Board and the Department of Water Resources (via the District's Urban Water Management Plan). It is also important with respect to continuing to build local and regional alliances to support eventual implementation.

The California Environmental Quality Act (CEQA) requires that all public agencies evaluate the potential effects on the environment of their discretionary activities before they undertake those activities. The District is still in the process of evaluating and formulating which project(s) may be a part of a final plan it intends to implement. Such preliminary planning needed to develop projects does not trigger the requirement to prepare an environmental analysis under CEQA, particularly where, as here, the District is committed to conducting a CEQA analysis of any project before proceeding.

Evaluation, and eventual pursuit, of water-use options which substantively increase the use of HBMWD's available water will be challenging and take time. Fortunately, in the absence of a third-party challenge, the District has time. Its water right permits do not expire until 2029. That being said, the District should address this matter expeditiously for several reasons:

- Revenues are necessary to offset the current municipal customer and ratepayer burden of shouldering the entire cost of the regional water system, as well as to fund costly infrastructure replacement projects which must be done soon to maintain the reliability and integrity of the regional system;
- The community – both public who participated in the planning process as well as stakeholder groups – better understand the issue and are supportive of what we are doing;
- It will take time to effectuate an increase in water use (unless a pulp-mill equivalent opportunity presents itself locally, which is not likely). It will likely take:
 - one-to-two years to complete preliminary studies;
 - three-to-five years to complete the necessary environmental studies pursuant to the California Environmental Quality Act (CEQA) and to obtain permits, including approval from the State Water Resources Control Board to change the District's water rights permits (which will be required for options b and c);
 - two-to-three years to obtain financing and implement a “project”.

In summary, it will likely take six to ten years to achieve an increase in water use, unless a new water-intensive business decides to locate within the District's service territory.

Activities defined in this plan are intended to guide consideration, evaluation, and eventual pursuit, of the recommended water-use options. The process the District envisions going forward is generally as follows:

- 1) Raise awareness of the District's situation – and the associated opportunity – and garner support, first locally, and then on an expanded scale.
- 2) Identify and pursue partners and resources to support and fund initial studies – whether market potential, economics, logistics, or environmental.
- 3) Conduct reconnaissance-level studies to assess the economic and environmental feasibility of specific options (especially options “b” and “c”).
- 4) Based on the outcomes of the reconnaissance studies, define potential projects, or if necessary, in-depth studies (which the District intends would be primarily funded by interested parties)
- 5) Define specific project(s) and begin implementation activities:
 - a. Pursue financing or funding partners;
 - b. Develop and execute MOUs and/or contracts;
 - c. Complete environmental studies (pursuant to CEQA);
 - d. Petition the State Water Resources Control Board to change the District's water rights permit (required for options “b” and “c” and possibly some local water uses via option “a”)
 - e. Obtain permits;

During this next phase of Water Resource Planning work, the District will continue to provide numerous opportunities for stakeholder and community input, both formally (via public hearings) and informally like the District did during the community-planning phase.

9) Implementation Activities to Advance Top-Tier Options

9.1 Activities Common to All Options

9.1.1 Communication

Schedule briefings with local legislative representatives, agencies, stakeholders, tribes, and other parties who have an interest in the water-use options and/or may assist the District.

At the appropriate time, convene a series of “initial discussions” with key parties outside of Humboldt County to share: what we are trying to accomplish and why; water-use options under consideration; and for option “b” (transport) the process by which we will undertake consideration (e.g. issuance of an RFP vs. bilateral discussions vs. other process).

How the District communicates needs to be carefully crafted so as to protect the District and local interests, and preserve the process the District wishes to go through. This is especially true for consideration of options “b” and “c”.

9.1.2 Identify Resources to Support Evaluation

Table 1 presents potential partners with whom the District should consult, and potential grant programs the District should explore to support evaluation of the water-use options.

Table 1 – Potential Partners and Resources	
<u>Option A:</u> Local Sales	What support can local economic development professionals/organizations or the business community provide? Potential grant programs: <ul style="list-style-type: none">• Headwaters Fund• Economic development programs• Dept of Labor programs
<u>Option B:</u> Transport to another Municipality outside District	What support can the Harbor District, proponents of Short-Sea Shipping, local business, or economic development organizations provide? Potential grant programs: <ul style="list-style-type: none">• Headwaters Fund• Economic development programs (e.g. EDA)• Dept of Labor programs• Harbor or maritime programs• Department of Water Resource programs
<u>Option C:</u> Dedicating a portion of available water for in-stream flows	What support can Resource Agencies (NOAA-Fisheries, CDF&G, USF&WS, USFS), Humboldt State University, California Cooperative Fish & Wildlife Research Unit (at HSU), CalTrout or Blue Lake Rancheria provide? Potential grant programs: <ul style="list-style-type: none">• DFG’s Fisheries Restoration Grant Program• NOAA-Fisheries grant programs• Coastal Conservancy• Humboldt Area Foundation

9.1.3 Public Involvement

The District will continue to solicit input from the public and stakeholder groups over the coming years as consideration and evaluation of the water-use options advance. At some point in the future, the District may initiate another community-focused education and outreach effort, similar to that which occurred in 2008-09, but with a focus on implementation activities.

Additionally, the Board of Directors will accept public comments and input at numerous regular Board meetings as well as formal public hearings.

9.2 Subsequent Activities for each Option

Proposed implementation activities have been defined for each water-use option. They are organized into three time periods as follows:

- Short-term: Actions the District intends to take between March and December, 2011
- Medium-term: Actions the District intends to take between 2012 and 2015
- Long-term: Actions the District intends to take – and outcomes it hopes to achieve – in 2015 and beyond

Actions defined in the medium and long-term categories will be shaped and adjusted based on outcomes of prior-period work.

The proposed actions are presented in the following Implementation Matrix for each time period.

Water Resource Planning Implementation Matrix

Options	Short Term Actions (March – December, 2011)
<p>N/A – Activities Necessary for all</p>	<ul style="list-style-type: none"> ❖ Coordinate discussion of Urban Water Management Plan requirements with proposed water-use options ❖ Capital Improvement Plan <ul style="list-style-type: none"> ○ Finalize CIP to identify revenue requirements over time ○ Evaluate potential increase in water rates to support capital replacement projects ○ Identify revenues needed from outside sources to enable District to issue bonds for needed replacements
<p><u>Option A:</u> Local Sales</p>	<ul style="list-style-type: none"> ❖ Write letter to retail water agencies in Humboldt County re: availability of water ❖ Write letter to local economic development organizations and Chambers of Commerce re: availability of water ❖ Initiate awareness campaign (including the media) ❖ Raise awareness and consult with regional and State economic development organizations
<p><u>Option B:</u> Transport to another Municipality outside District</p>	<ul style="list-style-type: none"> ❖ Conduct a reconnaissance study to determine the feasibility of marine-based transport of water from Humboldt Bay. Determine volume capability, approximate time of travel to potential California markets, and a preliminary estimate of transportation costs. ❖ Develop a “term sheet” which outlines criteria under which the District would be willing to transfer water, e.g.: <ul style="list-style-type: none"> ○ Minimum price ○ Term (minimum/maximum) ○ Volume (minimum/maximum) ○ Water conservation standards (e.g., meet new 20% x 2020 requirements) ○ Environmental standards (e.g., addressing groundwater overdraft or providing fisheries benefits) ❖ Identify public agencies that have a need for additional water (e.g., those considering desalinization or suffering from reduced supply reliability) ❖ Initiate preliminary discussions with several (approximately three to five) potential purchasers for a combined total of 20 - 40 MGD

Water Resource Planning Implementation Matrix

Options	Short Term Actions (March – December, 2011) Continued
<p style="text-align: center;"><u>Option C:</u></p> <p>Dedicating a portion of available water for in-stream flows</p>	<ul style="list-style-type: none"> ❖ Complete a Fisheries Restoration Program Grant (FRPG) application to establish a process and develop a plan that explores and evaluates the transfer of a portion of the District’s available water (e.g., 20 - 40 MGD, like in option B) for environmental benefit in the Mad River and estuary. (Note – This grant application was completed and submitted to the California Department of Fish and Game in March 2011. If approved funding would not be available until mid- 2012.) ❖ Convene a series of “scoping workshops” with Resource Agencies and other knowledgeable parties to define: <ul style="list-style-type: none"> ○ the regulatory and permitting requirements of an instream flow option; ○ potential benefits of a water transfer to the Mad River; ○ potential adverse biological or physical impacts of such a transfer; ○ beneficial or adverse effects to the estuary, and ○ studies that would need to be done to determine benefits and effects. ❖ Define District Operations and what that “Means for the River” <ul style="list-style-type: none"> ○ Baseline: post-construction of HBMWD’s regional water system, and operation with one or two mills (which is the operating mode addressed in the District’s Habitat Conservation Plan) ○ Potential changes in flow release operations. Develop these such that they relate to species of interest and their life cycle stages. Consider: <ul style="list-style-type: none"> • late fall/early winter when Ruth is filling; • winter, and most often spring, when Ruth Lake is full and spilling (note – operational changes are not possible at this time); • summer and fall – can consider: <ul style="list-style-type: none"> ○ additional increment every day vs. ○ additional increment at certain times for certain duration

Water Resource Planning Implementation Matrix

Options	Medium-Term Actions (2012-2015)
<p><u>Option A:</u> Local Sales</p>	<ul style="list-style-type: none"> ❖ Continue conversations with local economic development agencies/resources (but recognize not likely to “bear fruit”) ❖ Assess likely effectiveness of advertising the availability of water in trade journals, the newspaper or via the internet ❖ Begin conversations with interested parties/stakeholders regarding additional use of water ❖ If nothing appears to be materializing, assess likely effectiveness and cost of a “business attraction” effort. If District decides to proceed, partner with appropriate agencies and organizations
<p><u>Option B:</u> Transport to another Municipality outside District</p>	<ul style="list-style-type: none"> ❖ Negotiate MOU(s) with one or more purchasers for feasibility and environmental studies (it is the District’s intent that interested parties would pay for most if not all of the study costs) ❖ Complete feasibility study for transfer(s) which assesses viability, economics and environmental effects ❖ Depending on outcomes: <ul style="list-style-type: none"> ○ initiate environmental document and permitting activities ○ negotiate additional MOU(s) or option contract(s)
<p><u>Option C:</u> Dedicating a portion of available water for in-stream flows</p>	<ul style="list-style-type: none"> ❖ Complete activities defined in and funded by FRGP grant, and develop an Instream Flow Option Study Plan ❖ Create a Technical Review/Advisory Team and staff it with the appropriate resource specialties based on the outcomes of the assessment work and recommended studies in the Instream Flow Option Study Plan ❖ Apply for another FRGP grant (or secure other funding) to conduct the necessary studies and assessment work ❖ Conduct studies and assessment work and determine conclusions, outcomes and recommendations ❖ Based on outcomes, if enhancement or restoration activities on the Mad River are feasible: <ul style="list-style-type: none"> ○ negotiate an MOU with Resource Agencies or other appropriate parties to define preferred approach ○ explore potential and seek revenues for a transfer of water for in-stream purposes ○ initiate environmental document and permitting activities

Water Resource Planning Implementation Matrix

Options	Long-Term Actions (2015 plus)
All	<ul style="list-style-type: none"> ❖ Coordinate discussion of Urban Water Management Plan with water use options ❖ During this time period, the District intends to put up to 50 MGD of water to “beneficial use” pursuant to its water rights permits. The options below present possible ranges of water use, the total of which will not exceed 50 MGD.
<u>Option A:</u> Local Sales	<ul style="list-style-type: none"> ❖ Continue medium-term actions ❖ Develop new demands for raw water: <ul style="list-style-type: none"> ○ 5 MGD by 2020 ○ 10 MGD by 2029 <p>(Note - these demands reduce the amount of water that would be transferred via Options B and C)</p>
<u>Option B:</u> Transport to another Municipality outside District	<ul style="list-style-type: none"> ❖ Finalize environmental documents and permitting activities (resulting in issuance of permits for transfers) ❖ Execute transfer agreement(s) ❖ Issue bonds/other financial instruments based on revenues from water transfer(s) ❖ Construct necessary infrastructure ❖ Initiate transfers (pending status of local sales, goal is to transfer up to 40-50 MGD, this quantity in concert with environmental transfer pursuant to Option C) ❖ Continue transfers through SWRCB license period: <ul style="list-style-type: none"> ○ through 2035 for State Water project contractors ○ through 2045 for Central Valley Project contractors
<u>Option C:</u> Dedicating a portion of available water for in-stream flows	<ul style="list-style-type: none"> ❖ Finalize environmental documents and permitting activities (resulting in issuance of permits for transfers) ❖ Initiate transfer (pending status of local sales, goal is to transfer 40-50 MGD, this quantity in concert with transfer pursuant to Option B) ❖ Continue transfers through SWRCB license period and probably for some period beyond 2029

Water Resource Planning Implementation Matrix

**Humboldt Bay Municipal Water District
Key Challenges Facing the District and Its Customers
Increased Wholesale Costs and Retail Water Rates with “More to Come”**

Introduction

Up until 1999, the District had long-term contracts with two Industrial Customers on the Samoa Peninsula (the pulp mills) and seven wholesale Municipal Customers. Among other things, these contracts specified how the District’s costs would be allocated among the nine wholesale customers.

For many years, the two pulp mills paid approximately 75% of the District’s “cost-of-service” which is the total cost incurred by the District to operate, maintain, and improve the regional water system. Given this, individual rate payers within our community never really experienced the true cost of having the regional water system which has provided an abundant supply of safe, reliable drinking water for 50 years.

Loss of Industrial Customer Base

In 1993 Simpson Pulp Mill ceased operation, but they continued to pay “their share” of the regional system costs until 1999 (given a take-or-pay contract which expired in 1999).

In 1999, Louisiana Pacific (the remaining mill) entered into a short-term water supply contract with the District, given that the mill was not doing well financially and was up for sale. Over the next ten years, ownership of the original LP mill transferred four times.

In 2009 the mill ceased operation, and for the first time in 50 years, the District found itself with no industrial customer.

Cost Increases to Municipal Customers

The loss of the pulp mills triggered a significant cost shift to the District’s remaining customers (the seven Municipalities). Other factors have increased the District’s overall cost-of-service too, which unfortunately occurred within the same time frame. Following is a summary of the estimated cost shifts or increases which have occurred in the last ten years:

**Humboldt Bay Municipal Water District
Key Challenges Facing the District and Its Customers
Increased Wholesale Costs and Retail Water Rates with “More to Come”**

1. Loss of Industrial Customer Base:

- Simpson contributed over a \$1 million to the District’s cost-of-service. About half of that was shifted to other customers when their contract terminated in 1999 (reason for only half is that debt service for construction of original regional water system was paid off in 1999).
- In 2003, Samoa Pacific Cellulose (then-current owner of the LP mill) reduced their contracted volume from 22 MGD to 15 MGD, which in-turn, reduced their cost share. This shifted about \$300,000 to the Municipal Customers.
- In 2008, Evergreen Pulp Mill (then-current owner of LP mill) ceased operation, and in 2009 sold the mill to Freshwater Tissue, who intends to resume operation but as of this report has not done so. Closure of the second mill resulted in a loss of approximately \$1 million towards the District’s cost-of-service, much of which was shifted to the Municipalities.

2. New Regional Treatment Plant:

In the 1990s, the Department of Health Services (now Dept of Public Health) – the State agency which regulates drinking water - *mandated* that all eight “Public Water Systems” (HBMWD and its seven Municipal Customers) address the occasional high wintertime turbidity in the Mad River source water. Following a number of years of research and study, the Municipal Customers requested that HBMWD construct a regional treatment plant to address this regulatory mandate. HBMWD constructed the Turbidity Reduction Facility which was completed in 2002. Construction cost totaled \$10.5 million. This triggered a significant cost increase to the Municipalities given that it added almost \$1,000,000 to the District’s cost-of-service (given debt service and increased O&M costs).

3. Increased Power Costs:

The power cost to pump water is the District’s highest single operating cost. Utility electric rates increased significantly in the late 1990s after the State of California’s failed attempt to deregulate the energy industry (1996 pursuant to AB 1890). PG&E rates - especially those for larger industrial customers – increased significantly following the failed deregulation attempt. This triggered another increase in the District’s cost-of-service of \$200,000 - \$300,000 per year.

Humboldt Bay Municipal Water District
Key Challenges Facing the District and Its Customers
Increased Wholesale Costs and Retail Water Rates with “More to Come”

4. Increased Regulatory Costs:

The District has experienced a significant increase in its regulatory compliance and reporting requirements, which too has increased costs. The specific dollar amount is not readily available, but HBMWD believes it to be fairly substantial. Furthermore, the State has “shifted” many costs to local governments via increased fees and charges to fund State programs which used to be covered by the general fund, and the unbridled “taking” of local property taxes by the State.

5. District-Triggered Increases:

The District itself has contributed to some cost increases, especially in regards to taking the first steps to address its aging infrastructure and to address employment issues (especially employee attraction and retention).

Cumulatively, these cost increases have resulted in a staggering increase in HBMWD’s wholesale water charges to its Municipal Customers. In 1999/00, the last year the Simpson pulp mill contributed financially, the total wholesale charge to the Municipalities was \$708,000. In FY 2010/11 – the first full year with no industrial customer revenues – the total charge to the Municipalities was just over \$4 million.

Implications of these Cost Increases for Ratepayers

Table 1 presents wholesale cost increases for three of the District’s wholesale Municipal Customers - one small, one mid-size and one large customer for illustrative purposes. Wholesale costs have increased between 400% and 600% over the last ten years.

Table 1 also presents the rate impacts for an end-use customer over the same time period. The resulting monthly water charge is based on a fairly “typical” residential customer who has a standard meter (5/8-inch) and an assumed monthly consumption of 1500 cubic-feet of water. (Note – this is somewhat higher than what many *small* households would use). The three wholesale Municipal Customers included in Table 1 have recently increased their water rates or are in the process of doing so.

Humboldt Bay Municipal Water District

Key Challenges Facing the District and Its Customers

Increased Wholesale Costs and Retail Water Rates with “More to Come”

It is important to note that HBMWD's cost of water is only part of the reason water rates have increased – the Municipalities must recover their water system costs and those too have increased over the years to varying degrees in each agency.

TABLE 1					
	HUMBOLDT COUNTY				SONOMA COUNTY
	1999	2010/11	Increase		2010/11
			\$	%	
WATER CHARGES					
<u>Annual Wholesale Costs:</u>					
Fieldbrook CSD	\$14,094	\$94,322	\$80,228	569%	
McKinleyville CSD	\$88,140	\$628,952	\$540,812	614%	
City of Eureka	\$338,458	\$1,737,838	\$1,399,380	413%	
<u>Monthly Retail Bill (for 1500 cf):</u>					<u>Retail Bill (for 1500 cf):</u>
Fieldbrook CSD*	\$14	\$54	\$40	283%	Santa Rosa \$58
McKinleyville CSD**	\$18	\$31	\$13	69%	Rohnert Park \$55
City of Eureka***	\$23	\$48	\$25	106%	City of Petaluma \$53
INCOME					
Median Household Income****		\$39,627			\$62,314
MHI as % of State MHI		65%			102%
Water Rate as % of MHI		1.6%			1.1%

Notes:

* Fieldbrook CSD rate increase approved July 27, 2010.

** Data from current (2/4/2011) McKinleyville CSD rates, new rate increase is still in process.

*** City of Eureka rate increase approved January 18, 2011. Eureka's rates increase incrementally from FY 2010/2011 to FY 2014/2015. The rate shown is for FY 2010/2011.

**** 2008 Census Data (latest data available).

The cost for the Fieldbrook CSD customer would be approximately \$54, for a Eureka customer \$48/mo (FY 2010/2011), and for a customer of McKinleyville CSD, \$31/mo (McKinleyville's charge does not yet reflect their pending rate increase).

Also presented are retail water charges for three communities in neighboring Sonoma County (for 1500 cubic-feet/mo). Rates for customers in these communities are \$58 in Santa Rosa, \$55 in Rohnert Park, and \$53 in Petaluma.

**Humboldt Bay Municipal Water District
Key Challenges Facing the District and Its Customers
Increased Wholesale Costs and Retail Water Rates with “More to Come”**

Humboldt County residents’ water bills used to be much lower than water bills in neighboring counties like Sonoma, but that is no longer the case. Monthly water bills in our community are now comparable to what customers are paying in those communities; however, our Median Household Income (MHI) is much less. The MHI for Sonoma County is higher than Humboldt County's by 57% (\$62,314 vs. \$39,627). Humboldt County's MHI was only 67% of the State's MHI, while Sonoma County's was much higher at 102% of the State's MHI. An annual water bill as a percentage of the county's MHI is 1.6% in Humboldt County versus 1.1 % in Sonoma County's. In summary, residents in our community are seeing water bills comparable to communities in Sonoma County, yet the MHI in Humboldt County is significantly less than the MHI in Sonoma County.

Increased utility rates, as well as the ability of customers within our community to pay higher rates, are an important issue to understand and address.

Furthermore, utility rates do not yet reflect increased costs that HBMWD and the Municipalities will face over the coming years to address the aging infrastructure within our Cities and Districts.

Infrastructure Replacements will Trigger Additional Cost Increases

The regional water system is 50-years old and infrastructure replacements need to commence soon to ensure a reliable water supply to the community. As introduced in the main body, the District is developing a 20-year Capital Improvement Plan which will be completed soon.

It is anticipated that the CIP projects will cost many millions of dollars over the 20-year planning horizon. A key issue for the District and its Municipal customers is how to pay for these costly infrastructure projects, especially in light of the lost industrial customer base. ***Additional water revenues must be secured, or costs and rates will increase appreciably again over the coming years.***

**Humboldt Bay Municipal Water District
Key Challenges Facing the District and Its Customers
Increased Wholesale Costs and Retail Water Rates with “More to Come”**

To illustrate the nature of the CIP projects, following are three high priority projects.

**Replace water line to serve
Blue Lake and FG-CSD**

(\$1.5 - \$2 million)

The existing pipeline is in good shape, but the bridge which supports it – the Annie-Mary rail bridge – is not. It is in a state of disrepair, is not being maintained, and is vulnerable in a seismic event



**Replace ~ 2 miles of water
line on Samoa Peninsula**

(\$2.75 million)

The Techite pipeline is highly susceptible to seismic events and very difficult to repair. It is no longer produced, repair parts are not available, and there have been numerous lawsuits over its use in the water and wastewater industries.



**Humboldt Bay Municipal Water District
Key Challenges Facing the District and Its Customers
Increased Wholesale Costs and Retail Water Rates with “More to Come”**

**Install new laterals in
the existing Ranney
Collector Wells**

**(\$1.5 - \$3.0 million per
Collector)**

The Collectors are perhaps the most important part of the drinking water system. They draw water from an aquifer below the bed of the Mad River which results in naturally filtered water that is very high in quality.

The laterals are a series of perforated pipes which collect the filtered water. They are 50-years old and have deteriorated. HBMWD proposes a programmatic approach to install new laterals in each Collector.



California Water Rights Law

(and what it means for the District given loss of its industrial customer base)

Water Law Basics

California law recognizes three major types of surface water rights:

1. riparian rights,
2. pre-1914 appropriative rights, and
3. post-1914 appropriative rights.

The District does not hold riparian rights or pre-1914 appropriative rights. Therefore, the following addresses only post-1914 appropriative rights.

Post-1914 appropriative rights are acquired by means of an application to the State Water Resources Control Board (SWRCB) (or one of its predecessors) that describes:

- (i) the purpose for which the applicant wishes to use the water,
- (ii) the location where the applicant will divert the water,
- (iii) the place where the water will be used,
- (iv) the maximum rate of diversion and the maximum annual quantity of water to be diverted, and
- (v) the period each year during which the water will be used.

The SWRCB considers the application and evaluates:

- (i) is there water available for appropriation and use as described in the application, and
- (ii) whether granting a right to use water as proposed would be in the public interest.

If the SWRCB determines that there is water available and that it would be in the public interest for the water to be used in the manner described in the application, then the SWRCB issues the applicant a permit for the water.

Once the SWRCB issued a water right permit, the permittee (here, the District) is entitled to divert the “face value” of the right as shown on the permit issued by the SWRCB, provided that the diversion of water complies with all of the terms of the permit (including but not limited to the terms of the application). The permit does not vest a permanent right with the water user; instead, it creates a right that is subject to revision if the permittee does not put the full amount of water to beneficial use. The permit also gives the water a specified period of time to: (a) build the facilities needed to divert water, and (b) actually put the water to a beneficial use. The SWRCB reviews the permittee’s activities after the development period has passed and then issues a water right license for the quantity of water that the permittee has actually put to use. A water user that overestimated the amount of water that would be needed at the time it filed its application with the SWRCB can apply to the SWRCB to extend the period of development. The District filed such a request with the SWRCB and obtained an extension for its period of development to 2029. Over time, the SWRCB has increasingly begun to reject such requests so as to prevent water users from “locking up” water without putting it to use.

California Water Rights Law **(and what it means for the District given loss of its industrial customer base)**

Over the term of a 25-year permit, conditions will change. California law allows a permittee to change the place of use, the point of diversion or the purpose of use to reflect the changing needs of a community. Here, for instance, the District could change the purpose of use from “municipal and industrial” (i.e., urban uses) to “agriculture” or “aquaculture” in order to provide water for farming activities. The District could change its place of diversion from Essex to another location and it could change the place of use from its current service area to the entire county. Any of these changes would require a petition to the SWRCB that explains the need for the change and why the change would serve the public interest. The District may not increase the quantity of water that it diverts or change the season of its diversions without applying for an entirely new water right.

As a general rule, the SWRCB will look favorably on a proposed change in a water right as long as two conditions are met. First, the change cannot interfere with or otherwise injure another water right holder. Second, the change cannot have an unreasonable adverse effect on the environment or on public trust resources. Although California law does not expressly require changes in water rights to serve the public interest, the “no injury” and “no unreasonable impacts” standards effectively mean that the SWRCB must be convinced that a proposed change in a water right serves the public interest before it will approve the proposed change.

HBMWD’s Water Rights

The District holds post-1914 appropriative water rights permits which allow the District to store water at Ruth Lake and divert water at its diversion facilities on the Mad River (located 75 miles downstream between Arcata and Blue Lake). The permits allow the District to store 48,030 acre-feet of water at Ruth Lake and to divert up to 116 cubic feet per second (cfs). (Note: 116 cfs = 75 million gallons per day (MGD), the latter being the units in which HBMWD measures water delivery to its customers)

The physical facilities of the regional water system, plus these water rights, are what allow the District to provide the highly reliable year-round water supply to the Humboldt Bay region.

Controlling Water Rights = Putting Water to Use

One of the key questions relating to the right (or privilege) to exercise a water right is how much control a permittee will have as compared to the SWRCB or others. As a general rule, as long as the permittee is complying with the terms of its permit (including any changes), then the permittee has full control over the water rights. However, if the permittee fails to put all of the water under permit to use, then the SWRCB will, at the end of the permit period, reduce the quantity of water under the right to the amount that the permittee has actually used. In addition, the failure to use water formerly under permit creates the opportunity for new parties to try to obtain rights to the unused water.

California Water Rights Law

(and what it means for the District given loss of its industrial customer base)

“Control” of HBMWD’s Water Rights

Since the pulp mills ceased operation, the District is no longer using (or controlling) an appreciable amount of water it was granted the right to use (via its water rights permits). Figure 1 (attached) shows the amount of permitted diversion (annually) compared to the District’s actual diversions. As shown, there is a significant gap between the permitted use and the amount the District is currently using. The District must put this available water to “use” during the current permit term (no later than 2029) or risk losing the entire amount not being used. The amount lost would then become available to any party who applies to SWRCB for an appropriative water right.

Categories of Additional Water Use

There are three broad categories in which the District can achieve increased water use given its water rights permits:

- (i) Use additional water *within* the District – projects that increase the consumptive use of water within its current boundaries;
- (ii) Transfer water for use *outside* of the District’s existing service territory - projects that would generate revenues by selling water (not the water right) to a Municipality who would put the water to “beneficial use” under strictly defined terms which protect the District and local interests;
- (iii) Transfer water for environmental benefit - projects that would provide water for environmental restoration or enhancement (pursuant to section 1707 of the California Water Code).

There are thirteen “beneficial uses” of water allowed in California (water law/regulation). Figure 2 (attached) lists the thirteen allowed uses. Any project the District considers or pursues in the three broad categories above must satisfy one of these beneficial uses.

There are other projects the District may consider which would not be consumptive uses of water, but may use a portion of the District’s water rights. An example of this includes generating additional hydroelectric power somewhere along the Mad River.

Under the Municipal Water District law, the District has broad authority to serve water for consumptive and non-consumptive purposes (including recreation and environmental purposes). Therefore, the District has authority to implement any of the water use proposals under consideration.. However, many proposals would require additional permitting as well as changes to the District’s water rights permits (e.g., serving water outside the District’s existing

California Water Rights Law
(and what it means for the District given loss of its industrial customer base)

boundaries would require a modification in the District's water rights for the period of the transfer).

Implementing any of the District's top-tier water-use options would serve to advance local control over the District's water rights. Putting additional water to use would make it more difficult for either the State of California or third-parties to make claims that the District's water rights should be limited to the quantities currently needed in the absence of the two pulp mills.

Title Page, Executive Summary, Table of Contents,
& Framework for Evaluating Options
From the Advisory Committee Report
(complete report available online at www.hbmwd.com
Or by calling HBMWD at (707) 443-5018)

Humboldt Bay Municipal Water District Water Resource Planning

Advisory Committee Recommendations for Water Use Options

Supported by a Community-based Planning Process


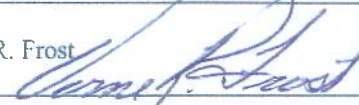
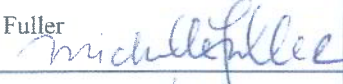
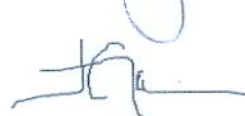

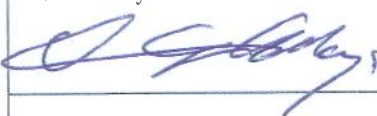
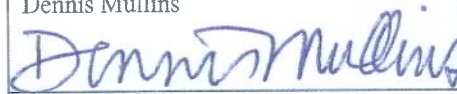

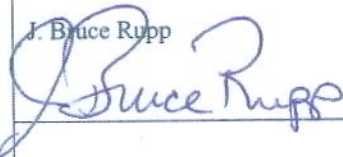
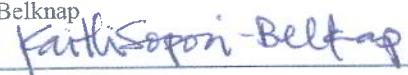
**Prepared by
The Water Resource Planning Advisory Committee**

**Prepared for
The Humboldt Bay Municipal Water District Board
And Members of the Public**

August 2010

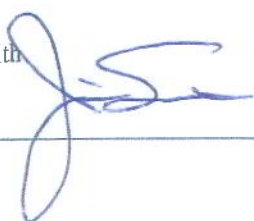
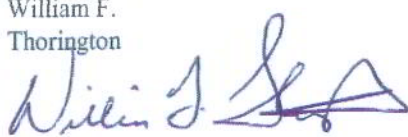
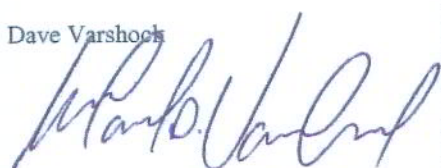
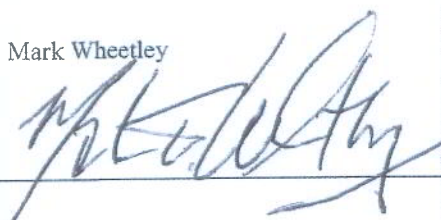

Advisory Committee Recommendations for Water Use Options

Members of the Water Resources Planning Advisory Committee:

Jacqueline Debets 	Jacqueline Debets is a fifth generation native to Humboldt County. She coordinates economic and workforce development for the county and is an advisor to the Cascadia Center for Leadership.
Verne R. Frost 	Verne R. Frost retired from career in the power industry and currently serves as on the Board of Directors of the Humboldt Community Services District.
Michelle Fuller 	Michelle Fuller is a watershed biologist currently serving as the Tribal Environmental Director for the Blue Lake Rancheria.
Jana Ganion 	Jana Ganion serves as Communication Director for the Blue Lake Rancheria Tribal Government, a position she has held for over 7 years. Prior to her work for the Tribe, she has served in communication, marketing and operations management in both non-profit and for-profit environments.
David Lindberg C.E.G. 	David Lindberg C.E.G. is a California-Certified Engineering Geologist with over twenty years of experience as a geologic consultant in northwestern California. He has been involved in geologic investigations, including soils, landslide, fault, and environmental investigations throughout the Mad River watershed.
Dennis Mayo 	Dennis Mayo is a rancher and horse trainer. He is the vice president of the McKinleyville Community Services District, ACWA region 1 board member, Humboldt County 5th District Planning Commissioner, Vice President of the McKinleyville Rodeo Association, North Coast representative for the Blue Ribbon Coalition, and the founder of recreational access group Open Beaches & Trails.
Dennis Mullins 	Dennis Mullins is a research analyst with the Labor Market Information Division www.labormarketinfo.edd.ca.gov of the California Employment Development. He is the primary labor force consultant for the North Coast and adjacent county region from Del Norte to Colusa and alternate for an additional seven inland counties.
Pete Nichols 	Pete Nichols is a founder and Executive Director of Humboldt Baykeeper, a Humboldt Bay and coastal environmental advocacy organization. Pete has a background in Conservation Biology and has been involved in environmental issues on the north coast for nearly 20 years. In addition to his work at Humboldt Baykeeper, Pete also serves on the Board of the International Waterkeeper Alliance, California Coastkeeper Alliance, the Humboldt Folklife Society, and is the President of the Northcoast Environmental Center.
J. Bruce Rupp 	J. Bruce Rupp is a former city manager, county administrator and owned his own real estate business for twelve years. He is a current member of the Humboldt Bay Municipal Water District Board, past President of the Humboldt Board of Realtors, and has remained active in various aspects of public life after his retirement in 2004.
Kaitlin Sopoci-Belknap 	Kaitlin Sopoci-Belknap is President of the Humboldt Bay Municipal Water District and Executive Director of Democracy Unlimited of Humboldt County (www.duhc.org). She is also the Co-Founder and Coordinator of the Humboldt Independent Business Alliance (www.humiba.org).

Advisory Committee Recommendations for Water Use Options

Members of the Water Resources Planning Advisory Committee:

<p>Jim Smith</p> 	<p>Jim Smith is the current President of the Central Labor Council of Humboldt and Del Norte Counties, AFL-CIO. He is also a retired Business Agent for AFSCME Council 57 and SEIU Local 1000 on the great north coast of California.</p>
<p>William F. Thorington</p> 	<p>William F. Thorington is currently President of the Humboldt Watershed Council (www.voicesofhumboldtcounty.com), owns and operates the Green Living Center (www.greenlivingstore.net) in Fortuna, and is the principal in Thorington Consulting Group offering business merger/acquisition/dissolution negotiations and Court appointed Trustee and Receivership services. He is also a retired banker, having founded and operated Six Rivers National Bank until 1998.</p>
<p>Dave Varshock</p> 	<p>Dave Varshock most importantly is the husband to Heidi Varshock and Dad to daughters Jaysea and Sydney. Dave is the Broker, President & Auctioneer for United Country Coast Realty & Auctions Services (www.coastcentralrealty.com), Property Manager for Coast Central Properties (www.coastcentralproperties.com), Chair of the Government Relations Committee for the Humboldt Association of Realtors, member of the National, California, and Humboldt Association of Realtors®, the Find Our Lots Team, and the Humboldt Coalition for Property Rights.</p>
<p>Mark Wheatley</p> 	<p>Mark Wheatley was elected to the Arcata City Council in 2005, serving as Mayor 2008 to 2009. He chairs the Humboldt County Association of Governments (HCOAG), is the former chair of the League of California Cities (LCC) Environmental Quality Policy Committee and a member of the LCC Water Task Force. He works as the North Coast basin planner at the Department of Fish and Game, Coastal Watershed Planning and Assessment Program coordinating watershed restoration projects.</p>
<p>Sheri Woo PE</p> 	<p>Sheri Woo, PE, is a science writer and professional environmental engineer. She is employed by HT Harvey & Associates as an ecological analyst, and by Humboldt State University, where she teaches technical communications and environmental impact analysis in the Engineering Department.</p>

Executive Summary

The Humboldt Bay Municipal Water District provides a reliable supply of drinking and industrial water to customers in the greater Humboldt Bay area of Humboldt County. It operates and maintains two separate and distinct water supply and delivery systems:

1. an Industrial Water System, capable of supplying 60 million gallons per day (MGD) of untreated water, which served wholesale industrial customer(s) located on the Samoa Peninsula, and
2. a Domestic Water System capable of supplying about 20 MGD of treated drinking water wholesale to its seven municipal customers.

The key challenge facing the District is the loss of its entire industrial customer base. This has resulted in:

- a significant loss in revenues that has shifted substantial costs to the District's municipal customers who, in turn, increased water rates to the ratepayers;¹
- non-use of the industrial water system and under-utilization of the District's water rights, which will be lost in the future if not used once again.

Therefore, to address revenue loss and to avoid the potential loss of water rights in the future, the District must find uses for the 60 MGD untreated "industrial" water. The District Board of Directors turned to the community to identify possible water use options. The process of engaging the community and identifying water use options was termed "Water Resource Planning."

The purpose of this Water Resource Planning report is to:

1. educate the public as to the conditions facing the District,
2. communicate recommendations for water use options that were developed by an advisory committee formed during the planning process, and
3. describe the community planning process that led up to these recommendations.

The Water Resource Planning (WRP) process initiated by the District Board of Directors was developed to:

- Provide the community with an understanding of the key challenges and opportunities facing the District, its customers, and the community
- Enable Board members to understand the community's priorities regarding the Mad River and use of its water
- Strengthen the District's position to maintain control of its water resource
- Position the Board so it can make decisions that benefit the community, and
- Develop a stronger and more trusting relationship between the District Board and the community

¹ It should be noted that not all of the municipal rate increases are due the District's increases, but also to a municipality's need to provide for its own aging infrastructure and delivery system.

An over-all goal for the District's WRP process was to set new standards for public processes and avoid the problems that plague many public processes, including polarized citizens, bad decisions, stalemate, or wasted time and dollars. Specifically, the District Board wanted the WRP process to be participatory, open and fair, efficient and time bound, educational, respectful and clear.

The District's outreach to the community was both wide-ranging and in-depth. To lead the process, the Board created an Advisory Committee (AC) comprised of three representatives from its Municipal Customer group, nine citizens representing multiple stakeholder perspectives, and two members of the Board. The AC began its work in June 2009. During its 14-month process, the AC gathered input and feedback from the public at 11 meetings, conducted an educational Water Workshop, and formed a Citizen's Study Group (CSG) comprised of invited stakeholders and citizens randomly selected and invited from voter rolls. The District used television, radio, print media, and the internet to further communicate with the community. For example, 29 articles appeared in eight newspapers or newsletters. The District also gave 22 presentations to various stakeholder groups throughout Humboldt County.

We have identified six distinct achievements or results of the WRP process. They are:

1. Created a "Framework for Evaluating Water Resource Planning Options"
2. Identified options evaluated by the public and the AC
3. Created detailed descriptions of the options
4. Provided public outreach and education
5. Analyzed options
6. Provided recommendations to the District Board

The "Framework for Evaluating Water Resource Planning Options" is a list of criteria by which one can evaluate water use options. It was synthesized from the values and priorities expressed by the public, the Citizen's Study Group, and the AC during the first set of public meetings.

Seven categories of evaluation criteria were identified; a water use option should:

1. Maintain local control of the District's water rights
2. Be legally viable
3. Support the preservation or enhancement of Mad River watershed
4. Maintain the community's access to water
5. Support economic development
6. Provide District cost recovery
7. Preserve or maintain our "quality of life"

Two of these evaluations were deemed so important that they were "elevated" to become thresholds, that is, an option must pass the two thresholds to be further considered as a water use option. Maintaining local control of water and being legally viable were the two water use thresholds.

Results 2, 3, and 4 of the WRP process occurred over six months (January to June 2010). During that time numerous and varied water use options were identified, described, researched, and discussed by the public, the CSG and the AC. Many options were slight variations on a concept, and the AC ultimately defined and analyzed 12 water use options. Then, using the "Framework

for Evaluating Water Resource Planning Options”, and considering all of the public input from meetings, letters, and emails, the AC was able to narrow the water use options to ten (Table A). Option B4 was set aside because it would not likely meet the “maintain local control” threshold and would introduce adverse environmental impacts in the Mad River watershed. Option D2 was set aside because it was a non-consumptive use, therefore it did not address the primary objective of this planning effort (i.e., identifying options to use additional water given loss the mills), and it was unclear whether it would “maintain local control” of the District’s water rights.

Table A. Summary of water use options and initial screening

Water Use Options	Options set aside from further consideration	Options recommended for consideration
A1. Actively pursue companies that use water		X
A2. Expand District boundaries		X
A3. Develop Lake in Blue Lake		X
A4. Develop aquaculture for appropriate species		X
A5. Divert water to Mad River fish hatchery		X
A6. Develop aquaculture for algae		X
B1. Sell untreated water to another municipality		X
B2. Sell untreated water to a private entity		X
B3. Build a pipeline in NCRA right-of-way to Sonoma		X
B4. Transfer water to Van Duzen or Trinity rivers	X	
C1. Transfer water (in Mad River watershed) for environmental restoration/enhancement (this was also called “in-stream flow” option)		X
D1. Develop micro-hydro in watershed		X
D2. Recreational opportunities at Ruth Lake	X	

The AC evaluated the remaining ten options and also solicited input from the CSG and public during the third round of public meetings. Following extensive consideration, the AC tiered its final recommendations that are presented in Table B. The only option on which the AC could not reach consensus was Option B3, building a pipeline to Sonoma County in the North Coast Railroad right-of-way.

Table B. Summary of the AC’s Tiered Recommendations

Option	Immediately pursue	Passively pursue	Defer	Not Recommended
A1. Actively pursue companies that use water	X			
A2. Expand District boundaries	X			
A3. Develop Lake in Blue Lake		X		
A4. Develop aquaculture for appropriate species		X		
A5. Divert water to Mad River fish hatchery		X		
A6. Develop aquaculture for algae		X		
B1. Sell untreated water to another municipality	X			

B2. Sell untreated water to a private entity		X		
B3. Build a pipeline in NCRA right-of-way to Sonoma	*AC unable to reach consensus			
C1. Transfer water (in Mad River watershed) for environmental restoration/enhancement (also called in-stream flow option)	X			
D1. Develop micro-hydro in watershed		X		
* The AC's views varied widely on this option, and they were not able to reach agreement on a final recommendation. See Section 3.6 of the report for an explanation.				

An evaluation of the WRP process itself is on-going. At the end of each public meeting, participants were asked to evaluate the process. Of those at the public meetings (approximately 390), 230 responded and expressed "very positive feelings" about the process. For example, participants were asked how well the meetings achieved the desired outcomes. On a scale of 1 to 5, with 5 being that the outcomes were fully achieved, 88.7% responded with either a 4 or a 5; the average response was 4.4. During August and September 2010, the District will conduct a survey of the groups who were involved in the process including District staff, the AC, the Citizen's Study Group, the Water Task Force, and members of the stakeholder groups. AC members and District staff will also be debriefed in interviews.

Table of Contents

1	Introduction.....	1
1.1	Introduction to the HBMWD.....	1
1.1.1	Key Challenges Facing the District	4
1.1.2	Planning Process to Address Strategic Issues.....	5
1.2	Introduction to California Water Law (by David Alajem)	6
1.2.1	Water Law Basics	6
1.2.2	HBMWD's Water Rights.....	8
1.2.3	Controlling Water Rights = Putting Water to Use.....	8
2	Water Resource Planning Process	10
3	Results.....	14
3.1	Result 1. Created a Framework for Evaluating Water Resource Planning Options	14
3.2	Result 2. Identified Options Evaluated by Public and the AC.....	18
3.3	Result 3. Created Detailed Descriptions of Options	22
3.4	Result 4. Provided Public Outreach and Education.....	34
3.4.1	Citizen's Study Group.....	34
3.4.2	Public Meetings and the Water Workshop	34
3.4.3	Other Group Presentations.....	37
3.4.4	Media Outreach.....	38
3.5	Result 5. Analyzed Options	40
3.5.1	Raptools	40
3.5.2	Initial Screening of Options.....	43
3.5.3	Tiering or Grouping of Options	44
3.6	Result 6. Provided Recommendations to the HBMWD Board	48
4	Process Evaluation (by Mary Gelinias)	48
4.1	Formative Evaluation.....	49
4.2	Summative Evaluation.....	50
5	Conclusions and Reflections	51

List of Figures

Figure 1.	Current operations of the District, with the distinction between untreated industrial and treated municipal (drinking) water supply.....	3
Figure 2.	Annual average municipal and industrial water used (MGD) over the last 40+ years.	5
Figure 3.	The Water Resource Planning Process. Schematic overview of how citizens and stakeholders are involved	11
Figure 4.	Example kite diagram from the Raptools model.....	41
Figure 5.	Kite diagrams generated from AC members' evaluations of the water use options using the Evaluation Framework and Raptools.....	42

List of Tables

Table A. Summary of water use options and initial screening.....	vi
Table B. Summary of the AC's tiered recommendations.....	vii
Table 1. The District's two planning efforts, infrastructure and water resource planning .	6
Table 2. Water Use Options based on public and stakeholder input	19
Table 3. Eight public meetings were held to support the water use planning process	35
Table 4. Water Workshop Agenda 19 January 2010	36
Table 5. Electronic media outreach	38
Table 6. Print media outreach	38
Table 7. Results of initial screening of options by 11 AC members..	44
Table 8. Results of tiering or grouping of the water use options.	46
Table 9. Recommendations to the HBMWD Board from the Advisory Committee.....	48

Appendices

1. WRP Advisory Committee Charter
2. Key Challenges Facing the District - Increased Costs and Water Rates
3. Overview of District Water Rights and Implications if not Used
4. Legal Opinion on Proposed Recommendations of Advisory Committee
5. Summary of Feedback on Eleven Meetings
6. Water Workshop Technical Background Materials
 - a. Presentations:
 - Introduction HBMWD's Situation and Its Implications
 - Water Rights and Options
 - Mad River Ecosystem
 - Water and Economic Development
 - b. Additional Reports & Supporting Material:
 - HSU, OECD Competitive Intelligence Research Service. January 7, 2010 Research Summary Update. Question: For several known water-intensive businesses, what is their daily water use, non-water related driving factors for determining facility location (including sensitivity to freight costs), and potential issues relating to discharge/waste products?
 - HSU, OECD Competitive Intelligence Research Service. October 28, 2009 Research Summary. Question: What industries/products are the most water-intensive within the United States?
 - Session notes for "How do the District's current and potential futures affect the Mad River?"
7. Raptools presentation to the AC

Framework for Evaluating Water Resource Planning Options

Thresholds	
Local Control	The option must allow the Humboldt Bay Municipal Water District to protect, maintain, and determine uses of the existing water rights.
Legally Viable	The option must implement actions that are currently legal, or if they require permits, variances or changes to law, those are likely to be obtained.
Evaluation Criteria: Does the option...	
Environmental: <i>Support the preservation or enhancement of the Mad River eco-system?</i>	Maintain in-stream flows for wildlife and people living along the Mad River?
	Protect and maintain wildlife and fisheries in the Mad River watershed?
	Enhance or increase wildlife and fisheries habitat area and/or quality?
	Use the least energy possible in delivery of water?
Access: <i>Provide access to a sufficient and long-term supply of high quality water for multiple purposes?</i>	Maintain use of as much of the permitted flows (approx. 75 MGD) as possible?
	Provide high quality drinking water that meets or exceeds water quality standards?
	Provide sufficient water supply throughout the term of the District's current permit?
	Allow for river- and lake-based recreation?
	Protect and maintain access for Native Americans?
Economic Development: <i>Employ water as an asset to benefit the regional economy?</i>	Contribute to the viability and vitality of the regional economy?
	Encourage technological innovation and entrepreneurship?
	Create or retain jobs within the regional economy?
District Cost Recovery: <i>Provide funding to the District for infrastructure maintenance, and thereby, decrease the costs to domestic ratepayers?</i>	Contribute to covering the District's costs for infrastructure maintenance, upgrades and/or expansion?
	Increase the District's customer base?
	Decrease customer rates?
	Utilize existing industrial system infrastructure?
	Generate energy for system use or net sale?
Community Quality of Life: <i>Provide recognizable benefits to, and improvements in, our community's "Quality of Life"?</i>	Support and improve community and environmental health, reduce stress, support spiritual needs and sense of purpose?
	Encourage community engagement?
	Inspire wide-spread community support?

Guidance for Applying Framework

This guidance document was prepared to assist the Humboldt Bay Municipal Water District Board of Directors (HBMWD Board of Directors) as they consider options for water resource planning. The HBMWD Board of Directors appointed a Water Resource Planning Advisory Committee to prepare and recommend evaluation criteria and water use options. The Advisory Committee developed this document through an extensive community engagement process that gathered input from a 60+ member Citizens Study Group and over 190 participants in three public meetings in the District.

The public's values are expressed in both the "thresholds" and the "evaluation criteria". Together, they form a decision-making framework that can guide the HBMWD Board of Directors, the Advisory Committee, and the public, as they consider specific options for water use.

The most frequent and strongly expressed value from the community was that the District retains "local control of the water rights." This value has been made a "threshold." For any option to be evaluated, it must first fulfill and pass this "local control" threshold. A second threshold is "legal viability"; if an option is not legally viable, then it should not be considered further.

Once an option passes the thresholds, the evaluation criteria can be applied to determine how well the option fulfills community values.

All evaluation criteria are important, as they represent the public's stated priorities relative to water use planning. Each option may not meet all the criteria, but all criteria should be considered to guide the HBMWD Board of Directors' decision-making.

The criteria should be applied in such a way that they allow for adaptation as conditions evolve.

Glossary of Terms